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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,171

03/31/2004

Hiroshi Sasaki

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12/14/2007

WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.

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SUITE 340

RESTON, VA 20190

EXAMINER

BOATENG, ALEXIS ASIEDUA

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

12/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/813,171

Applicant(s)

SASAKI, HIROSHI

Examiner

Alexis Boateng

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5,15-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,5,15-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

This action should replace the advisory action that was mailed 11/15/07. This final action replaces the advisory action since no final action was sent prior.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3, 5, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahman (U.S. 5,990,664) in view of Garstein (U.S. 6,161,131).

Regarding claim 3, Kitagawa discloses wherein a power source for a cell for controlling transfer of electric energy from said cell to loads on a device, said power source circuit comprising:

a pair of output terminals (figure 3a items 12 and 14);

a cell voltage detecting circuit to detect a discharge of said cell (column 4 lines 15 - 20);

a discharge control circuit (figure 3a item 30);

an output voltage detecting circuit (figure 3a item 30) to detect an output voltage across said output terminals and to generate a corresponding output voltage detection signal (column 4 lines 7 - 34);

a step-up DC-DC converter (figure 3a item 20);

a switching circuit to alternatively switch positive electrode of said cell to one of said output terminals or of said step-up DC-DC converter (figure 3a item SW-3; column 4 lines 35 - 54),

wherein said step-up DC-DC converter has a first input connected to said switching circuit, a second input to receive the output voltage detection signal from said output voltage detecting circuit, and a step-up output connected to one of said output terminals (figure 3b item 22), and

wherein said discharge control circuit controls the alternative switching of said switching circuit to switch from the one of said output terminals to said step-up DC-DC converter in a manner that when the discharge voltage of said cell becomes lower than an operation lower limit voltage of said device the output voltage across said output terminals is made higher than said operation lower limit voltage of said device (figure 3b item 30). Rahman discloses the invention as claimed, but does not disclose the remainder. Garstein discloses in figure 13 wherein a power storing section, capacitor item Cf, is connected to said output terminals. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Rahman system with the Garstein system so that detrimental spikes in the current are prevented from occurring.

Regarding claims 5 and 18, Rahman does not disclose the invention as claimed. Garstein discloses in column 20 lines 9 - 12 wherein the capacitor may be a double layer capacitor or a super capacitor. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the

Rahman system with the Garstein system so that detrimental spikes in the current are prevented from occurring.

Regarding claims 15 and 19, Rahman discloses wherein termination of discharge of said cell is detected based on a voltage drop amount of the discharge voltage of said cell per unit time.

Regarding claims 16 and 20, Rahman discloses wherein the termination of discharge of said cell has been detected, said switching circuit switches from said step-up DC-DC converter to one of said terminals, whereby said device operates to display warnings of operation termination (column 15 lines 4 - 26).

Response to Arguments

3. Applicant's arguments with respect to claim 3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexis Boateng whose telephone number is (571) 272-5979. The examiner can normally be reached on 8:30 am - 6:00 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ullah Akm can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB


BAO Q. VU
PRIMARY EXAMINER